

IV are in direct contrast to the uniformity and excellent treatment of the plants in chapters II and III. Perhaps many of these inconsistencies could have been obviated by more careful editing on the part of the publisher. Whatever fault one may find in the method of treatment of material in chapter IV, it is more than compensated for by the tables of plants and their pollinating dates and in the discussion of the references following the text for each region.

Dr. Wodehouse is to be congratulated for the great service he has done to all practicing allergists in bringing together in this fine volume the great mass of botanical information applicable to the field of allergy.—H. E. McMINN, Mills College, California.

A Synopsis of the North American Species of Delphinium. By JOSEPH EWAN, University of Colorado Studies, Series D (Physical and Biological Sciences) 2(2): 55-244. f. 1-58. 1945. \$1.00.

Like most of the larger genera of North American plants, *Delphinium* has been for many years in need of a thorough and comprehensive new treatment and of a complete re-study of its species. Although it is not possible for one unfamiliar with many of the species of a genus to make an adequate evaluation of a paper of this sort, the one by Joseph Ewan gives evidence of complete competence of workmanship, and many features give testimony of an unusually scholarly approach.

The author does not claim to have made a complete solution of the interrelationships of the major species groups, and he has not chosen names of formal standing to designate them. Consequently, the species are placed in series rather than in subsections, sections, or subgenera. Probably it is recognition of this limitation of the present state of knowledge of the group of plants which has led the author not to attempt to make a key to all the species or to the series recognized by English names. Consequently, he has given regional keys to the species occurring in such areas as, for example, "Washington and Idaho," "California," or "Colorado." It is to be hoped that in time, after further study of the genus it will be possible for the author to provide keys to segregate the major groupings, and to separate all the species according to relationships, rather than according to geography.

The treatment of each species, subspecies, and form is thorough, but the author has not gone to the extreme of detail of citing all of the specimens of common species. However, for all critical points he has backed up his interpretation by citation of specimens. Both the text and the introduction show the results of a long and critical study.

The writer is inclined to wonder about only one major point. In the introduction a list of characters considered as primitive is given. Opposite this there is another list of corresponding characters considered as advanced. It is obvious that some of the

characters such as papillate or scaly seeds may represent specialization and probably, therefore, are indicative of advanced types. However, it is to be wondered whether such a character as relatively simple leaves is to be considered always as necessarily primitive within the genus and whether the corresponding character of more deeply lobed leaves is to be considered necessarily as advanced. The same question might be raised concerning such characters as the relative density of the inflorescence and hairiness of the herbage. The writer is ignorant of the situation in the genus *Delphinium*, and it is quite possible that the primitiveness of the characters as described by Mr. Ewan is correct.—LYMAN BENSON, Department of Botany, Pomona College, Claremont, California.

Forest Tree Breeding and Genetics. By R. H. RICHENS, M.A. Imperial Agricultural Bureaux, Joint Publication No. 8. November, 1945.

This bulletin is the most comprehensive of the relatively few British publications in the field of forest tree breeding. Its content may be summarized briefly.

A short preface and table of contents precede the fitting foreword by the well-known forester H. G. Champion. The introduction is primarily an argument supporting the need for forest tree breeding in England, seemingly with the intent of overcoming indifference to such work on the part of His Majesty's Forest Commissioners. The next eleven pages are devoted to a generalized (and excellent) discussion of the principles and fundamentals of forest tree breeding. A detailed text of 41 pages follows. The bulletin ends with a glossary, a summary in four languages, and 613 citations to literature on the subject.

According to the preface, the objective of this publication was "to collate the literature on forest tree breeding that has appeared since 1930." This has been done by selecting for discussion 22 topics such as "natural variation," "quality," "selection," "hybridization." The literature on each of the 31 included genera of forest trees is systematically reviewed with relation to the 22 topics chosen.

The table of contents, a very ingenious device, permits ready reference to any one of the 22 topics as it relates to any of the 31 genera considered.

Careful study of the genera treated and the topics discussed reveals that very little recent literature on the subject of forest tree breeding would be excluded in the screening provided by the plan of the bulletin. While it is possible that some publications on the subject may have escaped the attention of the author, due to the war-torn condition of the world for the past few years, it is doubtful whether any considerable amount has thus been overlooked. Furthermore, frequent citations to unpublished material